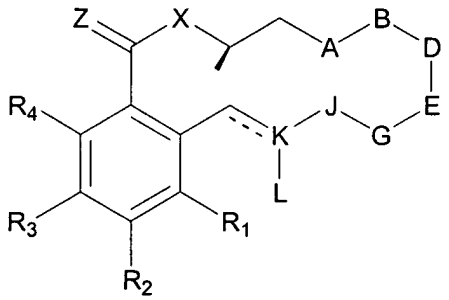
Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently amended) A compound having the structure:



wherein the dotted line --- represents an optional bond, such that either a single or a double bond is present;

R_1 is hydrogen, halogen, an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or $N(R_A)_2$, wherein each occurrence of R_A is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety;

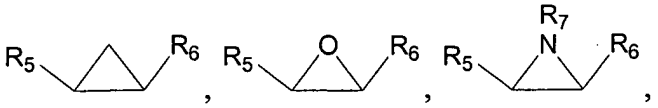
R_2 is hydrogen, halogen, cyano, $-OR_B$, $-N(R_B)_2$, $-SR_B$, $-O(C=O)R_B$, $-N(R_B)(C=O)(R_B)$, $-C(O)R_B$, $-C(O)OR_B$, $-CON(R_B)_2$, $-OCO_2R_B$, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, wherein each occurrence of R_B is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety;

R_3 is hydrogen, halogen, an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or $-N(R_C)_2$, wherein each occurrence of R_C is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety;

R_4 is hydrogen, halogen, cyano, $-OR_D$, $-N(R_D)_2$, $-SR_D$, $-O(C=O)R_D$, $-N(R_D)(C=O)(R_D)$, $-C(O)R_D$, $-C(O)OR_D$, $-CON(R_D)_2$, $-OCO_2R_D$, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, wherein each occurrence of R_D is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety;

Z is O;

X is O;

A and B together represent  , -CHR_5-CHR_6-, -CR_5=CR_6-, wherein R_5 and R_6 are each independently hydrogen, halogen, cyano, -OR_J, -$N(R_J)_2$, -SR_J, -$O(C=O)R_J$, -$O(S=O)R_J$,-$N(R_J)(C=O)(R_J)$, -$C(=O)R_J$, -$C(=O)OR_J$, -$CON(R_J)_2$, -OCO_2R_J, -OSO_2R_J, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, wherein each occurrence of R_J is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, and wherein R_7 is hydrogen, -OR_K, -SR_K, -$C(O)OR_K$, -$S(O)_2R_K$, -$O(C=O)R_K$, -$N(R_K)(C=O)(R_K)$, -$C(O)R_K$, -$C(O)OR_K$, -$CON(R_K)_2$, -OCO_2R_K, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, wherein each occurrence of R_K is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or when A and B together represent -CHR_5-CHR_6-, R_5 and R_6 taken together represent a substituted or unsubstituted 3-7 membered aliphatic, heteroaliphatic, aryl or heteroaryl ring,

D and E together represent -CHR_8-CHR_9-, -CR_8=CR_9-, wherein R_8 and R_9 are each independently hydrogen or lower alkyl;

G and J together represent -CHR_{10}-CHR_{11}-, -CR_{10}=CR_{11}-, wherein R_{10} and R_{11} are each independently hydrogen or lower alkyl;

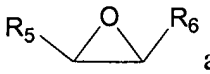
K and L together represent C=O, C=S, CH-CH_3, CH-$CH(R_L)_2$, C=$C(R_L)_2$, -CH_2-, -C(-$S(CH_2)_3$S-)-, CH-OR_L, CH-SR_L, CH-$N(R_L)_2$, CH-$N(R_L)(C=O)(R_L)$, C=N-O-R_L, CH-N=O, C=$C(R_L)$-$N(R_L)_2$, C=N-R_L, C=N-$N(R_L)_2$, or, if the dotted line --- represents a bond, whereby a double bond is present, then K and L together represent C-$N(R_L)_2$, wherein each occurrence of R_L is independently hydrogen, an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or two occurrences of R_L taken together represent a 3 to 7-membered cyclic aliphatic, heteroaliphatic, aromatic or heteroaromatic moiety;

whereby each of the foregoing aliphatic and heteroaliphatic moieties may independently be substituted or unsubstituted, cyclic or acyclic, or branched or unbranched, and each aryl, heteroaryl, alkylaryl, and alkylheteroaryl moiety may be substituted or unsubstituted;

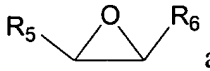
wherein one or any two of R_1, R_A, R_2, R_B, R_3, R_C, R_4, R_D, R_5, R_6, R_J, or R_L are optionally a linker covalently bonded to a compound selected from the group consisting of radicicol, monocillin, geldanamycin, and steroids; and

pharmaceutically acceptable derivatives thereof,

with the proviso that:

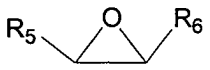
(1) if A and B together are  and R_5 and R_6 are each hydrogen; if D and E together are –CH=CH-; if G and J together are -CH=CH-; if K and L together are C=O; if R_1 is hydrogen or Cl; and if R_3 is hydrogen,

then R_2 is not $-OR_B$ or $-O(C=O)R_B$, wherein R_B is ~~hydrogen or an alkyl, alkoxy, alkenyl, alkenyloxy, alkynyl, aryl, *tert* butyldimethylsilyl, arylalkyl, aryloxy, heterocycle, heteroaryl, cycloalkyl, cycloalkenyl, or cycloalkenyl fused to an aryl group~~ hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety; and R_4 is not $-OR_D$ or $-O(C=O)R_D$, wherein R_D is ~~hydrogen or an alkyl, alkoxy, alkenyl, alkenyloxy, alkynyl, aryl, *tert* butyldimethylsilyl, arylalkyl, aryloxy, heterocycle, heteroaryl, cycloalkyl, cycloalkenyl, or cycloalkenyl fused to an aryl group~~ hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety;

(2) if A and B together are  and R_5 and R_6 are each hydrogen; if D and E together are $–CH_2-CH_2-$; if G and J together are $–CH_2-CH_2-$; if K and L together are C=O; if R_1 is Cl; and if R_3 is hydrogen,

then R_2 is not $-OR_B$ or $-O(C=O)R_B$, wherein R_B is hydrogen or an alkyl, alkoxy, alkenyl, alkenyloxy, alkynyl, aryl, aryloxy, heterocycle, cycloalkyl, cycloalkenyl, or cycloalkenyl fused to an aryl group; and R_4 is not $-OR_D$ or $-O(C=O)R_D$, wherein R_D is hydrogen or an alkyl, alkoxy, alkenyl, alkenyloxy, alkynyl, aryl, aryloxy, heterocycle, cycloalkyl, cycloalkenyl, or cycloalkenyl fused to an aryl group; and

(3) if R_1 is Cl; if R_2 is OR_B and R_B is hydrogen, alkanoyl, alkenoyl, tert-butyl dimethylsilyl or tert-butyldiphenylsilyl; if R_3 is hydrogen; if R_4 is OR_D and R_D is hydrogen,

alkanoyl, alkenoyl, tert-butyldimethylsilyl, or tert-butyldiphenylsilyl; if D and E together are –CH=CH-; if G and J together are -CH=CH-; if A and B together are  or if A and B together are $-CHR_5-CHR_6-$ and R_6 is halogen and R_5 is OR_J, wherein R_J is hydrogen, alkanoyl, or alkenoyl, or R_5 is $-O(S=O)R_J$, wherein R_J is a second compound of formula (I) linked via an oxygen atom present at R_5 in the second compound of formula (I), and wherein R_6 of the second compound of formula (I) is halogen; Z of the second compound of formula (I) is O; X of the second compound of formula (I) is O, R_1 of the second compound of formula (I) is Cl; R_2 of the second compound of formula (I) is OR_B and R_B is hydrogen, alkanoyl, alkenoyl, tert-butyl dimethylsilyl or tert-butyldiphenylsilyl; R_3 of the second compound of formula (I) is hydrogen; R_4 of the second compound of formula (I) is OR_D and R_D is hydrogen, alkanoyl, alkenoyl, tert-butyldimethylsilyl, or tert-butyldiphenylsilyl;

then K and L together are not C=O or C=N-O-R_L, when R_L is hydrogen, or substituted or unsubstituted lower alkyl, a substituted or unsubstituted alkenyl moiety, a substituted acyl moiety or a substituted or unsubstituted aryl moiety;

except that K and L together can be C=N-O-R_L, when R_L is a linker covalently bonded to a compound selected from the group consisting of radicicol, monocillin, geldanamycin, and steroids.

2. (Previously presented) The compound of claim 1, wherein one or any two of R_1, R_A, R_2, R_B, R_3, R_C, R_4, R_D, R_5, R_6, R_J, or R_L are a linker covalently bonded to a compound selected from the group consisting of radicicol, monocillin, geldanamycin, and steroids, wherein the linker is an aliphatic or heteroaliphatic moiety, whereby said aliphatic or heteroaliphatic moiety is substituted or unsubstituted, branched or unbranched, or cyclic or acyclic.

3. (Previously presented) The compound of claim 1, wherein one or any two of R_1, R_A, R_2, R_B, R_3, R_C, R_4, R_D, R_5, R_6, R_J, or R_L are a linker covalently bonded to a compound selected from the group consisting of radicicol, monocillin, geldanamycin, and steroids, wherein the linker is a moiety having one of the structures $-(CH_2)_n-CH=CH-(CH_2)_m-$, $-(CH_2)_p-C\equiv C-(CH_2)_q-$,

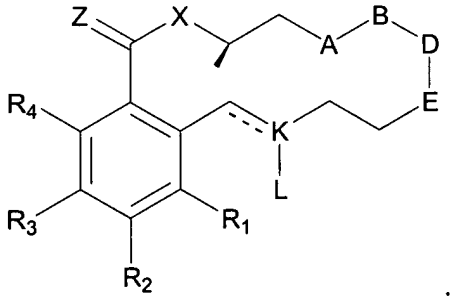
or $-CH_2(CH_2)_sCH_2-$, wherein each occurrence of n, m, p, q and s is independently an integer from 0-10, and wherein one or more of the hydrogen atoms are optionally replaced with an alkyl, heteroalkyl, aryl, heteroaryl, alkylaryl or alkylheteroaryl moiety or a secondary or tertiary amine, hydroxyl, or thiol.

4. (Canceled)

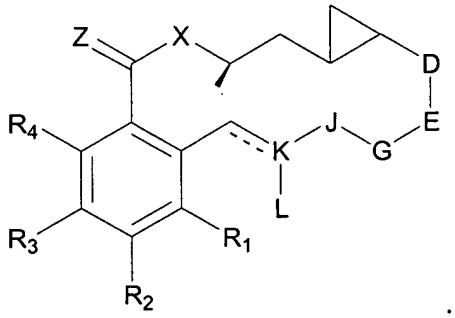
5. (Canceled)

6. (Canceled)

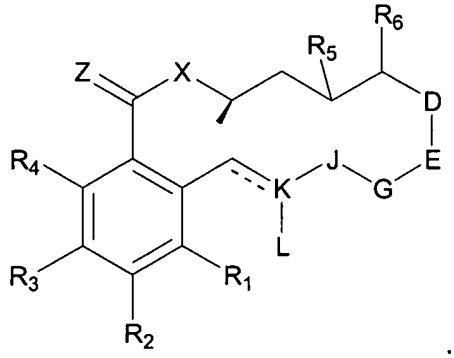
7. (Original) The compound of claim 1, wherein G and J together represent $-CH_2-CH_2-$ and the compound has the structure:



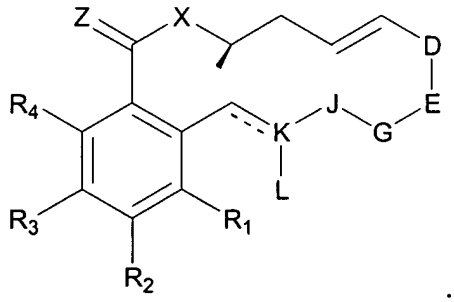
8. (Original) The compound of claim 1, wherein A-B is a cyclopropyl ring and the compound has the structure:



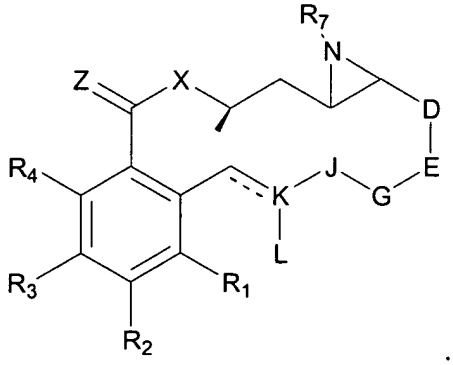
9. (Original) The compound of claim 1, wherein A and B together represent -CHR_5-CHR_6- and the compound has the structure:



10. (Original) The compound of claim 1, wherein A and B together represent -CH=CH- and the compound has the structure:

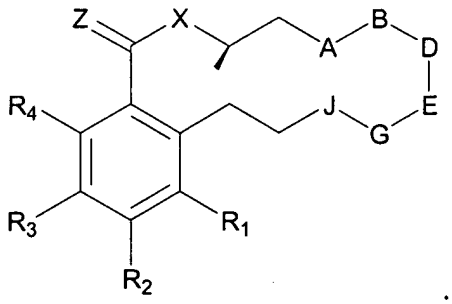


11. (Original) The compound of claim 1, wherein A and B together represent an aziridine and the compound has the structure:

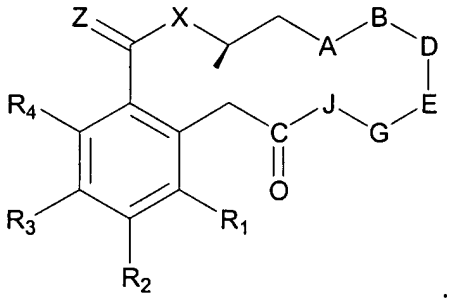


12. (Previously presented) The compound of claim 1, wherein the optional bond

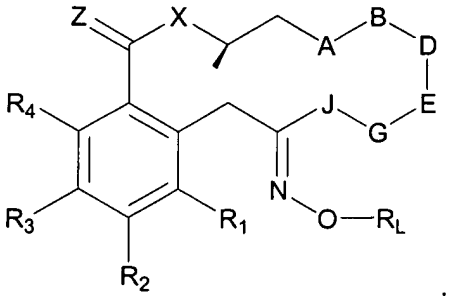
represented by the dotted line --- is absent so that a single bond is present, K and L together represent -CH_2- and the compound has the structure:



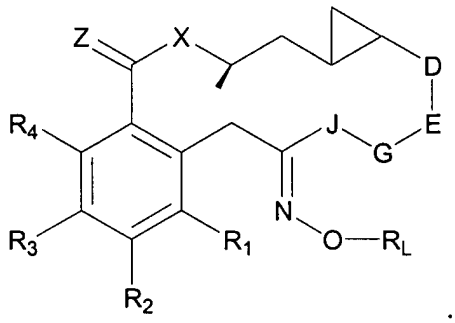
13. (Previously presented) The compound of claim 1, wherein the optional bond represented by the dotted line --- is absent so that a single bond is present, K-L together represent C=O and the compound has the structure:



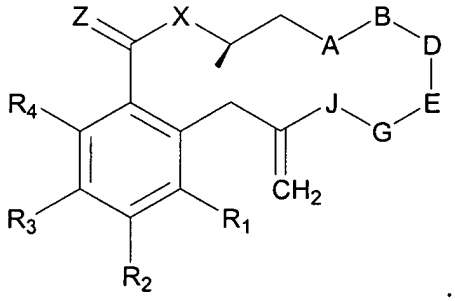
14. (Previously presented) The compound of claim 1, wherein the optional bond represented by the dotted line --- is absent so that a single bond is present, K and L together represent C=N-O-R_L and the compound has the structure:



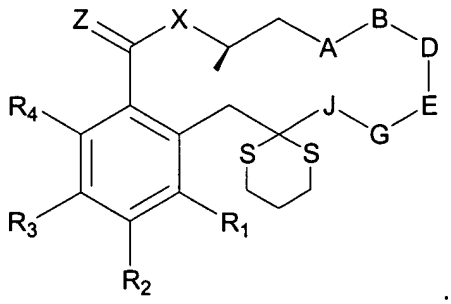
15. (Previously presented) The compound of claim 1, wherein the optional bond represented by the dotted line --- is absent so that a single bond is present, A and B together represent a cyclopropyl group, K and L together represent C=N-O-R_L and the compound has the structure:



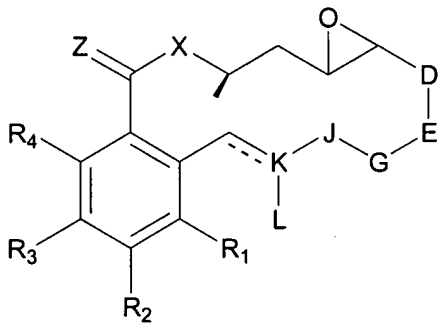
16. (Previously presented) The compound of claim 1, wherein the optional bond represented by the dotted line --- is absent so that a single bond is present, K and L together represent C=CH_2 and the compound has the structure:



17. (Previously presented) The compound of claim 1, wherein the optional bond represented by the dotted line --- is absent so that a single bond is present, K and L together represent a dithiane, -C(-S(CH_2)$_3$S-)-, and the compound has the structure:



18. (Previously presented) The compound of claim 1, wherein A and B together represent an epoxide and the compound has the structure:



wherein at least one of the D-E, G-J, K-L, R_2 and R_4 are defined as:

R_2 is hydrogen, halogen, cyano, $-N(R_B)_2$, $-SR_B$, $-N(R_B)(C=O)(R_B)$; $-C(O)R_B$, $-C(O)OR_B$, $-CON(R_B)_2$, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, wherein each occurrence of R_B is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety;

R_3 is not hydrogen;

R_4 is hydrogen, halogen, cyano, $-N(R_D)_2$, $-SR_D$, $-N(R_D)(C=O)(R_D)$, $-C(O)R_D$, $-C(O)OR_D$, $-CON(R_D)_2$, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, wherein each occurrence of R_D is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety;

D and E together represent $-CHR_8-CHR_9-$ wherein R_8 and R_9 are each independently hydrogen or lower alkyl;

G and J together represent $-CHR_{10}-CHR_{11}-$, wherein R_{10} and R_{11} are each independently

hydrogen or lower alkyl;

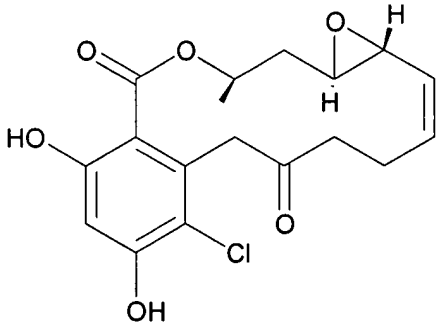
K and L together represent C=S, CH-CH_3, CH-$CH(R_L)_2$, C=$C(R_L)_2$, -CH_2-, -C(-$S(CH_2)_3$S-)-, CH-OR_L, CH-SR_L, CH-$N(R_L)_2$, CH-$N(R_L)(C=O)(R_L)$, CH-N=O, C=$C(R_L)$-$N(R_L)_2$, C=N-R_L, C=N-$N(R_L)_2$, or, if the optional bond represented by the dotted line --- is present so that a double bond is present, then K and L together represent C-$N(R_L)_2$, wherein each occurrence of R_L is independently hydrogen, an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or two occurrences of R_L taken together represent a 3 to 7-membered cyclic aliphatic, heteroaliphatic, aromatic or heteroaromatic moiety; or any two of R_1, R_A, R_2, R_B, R_3, R_C, R_4, R_D, R_5, R_6, R_J, or R_L are a linker covalently bonded to a compound selected from the group consisting of radicicol, monocillin, geldanamycin, and steroids.

19. (Previously presented) The compound of claim 1, wherein A and B together are -CHR_5-CHR_6- or -CR_5=CR_6- and R_5 and R_6 are each independently hydrogen, halogen, cyano, -OR_J, -$N(R_J)_2$, -SR_J, -O(C=O)R_J, O(S=O)R_J ,-$N(R_J)(C=O)(R_J)$, -OCO_2R_J or -OSO_2R_J and each occurrence of R_J is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety.

20. (Currently amended) The compound of claim 19, wherein R_5 and R_6 are each independently hydrogen~~, or lower alkyl~~.

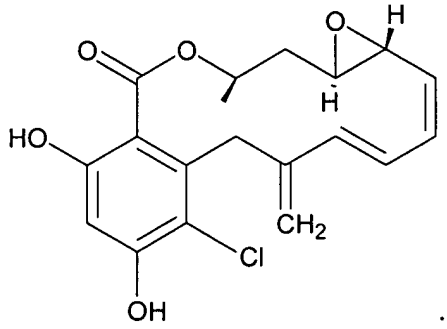
21. (Previously presented) The compound of claim 1, wherein R_1 and R_3 are each independently halogen, hydrogen, or lower alkyl; R_2 is hydrogen or -OR_B, wherein each occurrence of R_B is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, and R_4 is hydrogen or -OR_D, wherein each occurrence of R_D is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety.

22. (Previously presented) A compound having the structure:

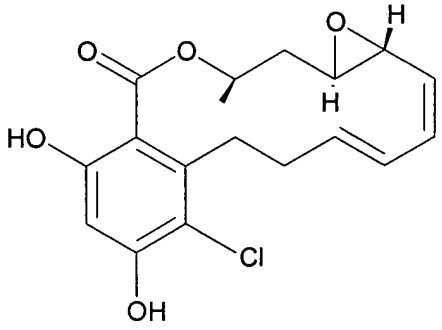


23. (Canceled)

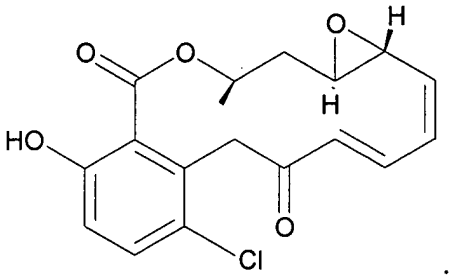
24. (Previously presented) A compound having the structure:



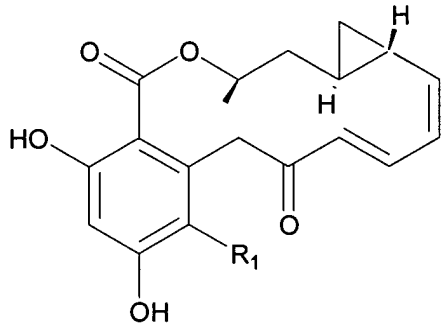
25. (Previously presented) A compound having the structure:



26. (Previously presented) A compound having the structure:

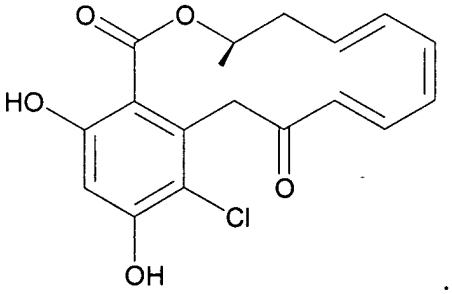


27. (Previously presented) A compound having the structure:



wherein R_1 is hydrogen or Cl.

28. (Previously presented) A compound having the structure:



29. (Canceled)

30. (Currently amended) A pharmaceutical composition for treating ~~Hsp90-dependent cancers~~ a cancer selected from the group consisting of breast cancers, lung cancers, glioblastoma (brain), and retinoblastoma (eye) comprising a compound of claim 1 and a pharmaceutically acceptable carrier.

31. (Canceled)

32. (Canceled)

33. (Currently amended) A method for treating ~~an Hsp90-dependent cancer~~ a cancer selected from the group consisting of breast cancers, lung cancers, glioblastoma (brain), and retinoblastoma (eye) comprising:

administering a therapeutically effective amount of a compound of claim 1 to a subject in need thereof.

34. (Original) The method of claim 33, wherein the therapeutically effective amount is in the range of 0.001 mg/kg to 50 mg/kg of body weight.

35. (Original) The method of claim 33, wherein the therapeutically effective amount is in the range of 0.01 mg/kg to about 25 mg/kg of body weight.

36. (Canceled)

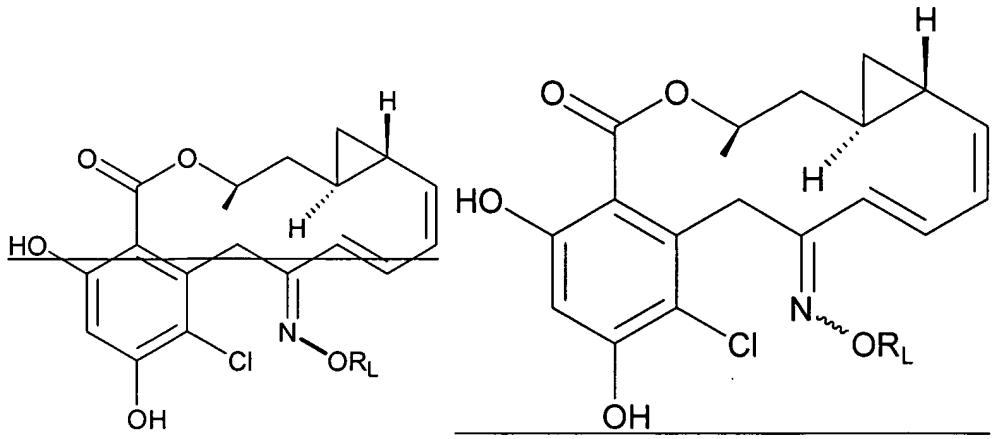
37. (Canceled)

38. (Currently amended) A method for inhibiting the growth of or killing ~~Hsp90-dependent~~ cancer cells, said method comprising:

contacting ~~Hsp90-dependent~~ cancer cells with an amount of a compound of claim 1 effective to inhibit the growth of or kill the cancer cells, wherein the cancer cells are selected from the group consisting of breast cancer cells, lung cancer cells, glioblastoma (brain) cells, and retinoblastoma (eye) cells.

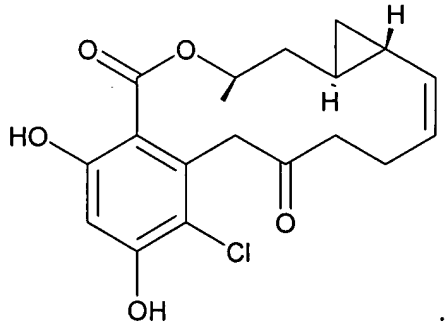
39.-56. (Canceled)

57. (Presently amended) A compound having the structure:



wherein R_L is independently hydrogen, an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety.

58. (Previously presented) A compound having the structure:



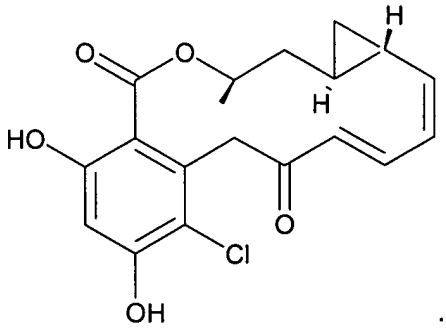
59. (Canceled)

60. (Canceled)

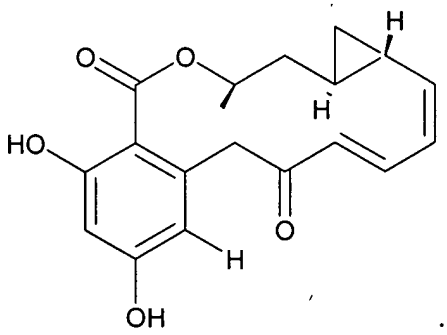
61. (Canceled)

62. (Canceled)

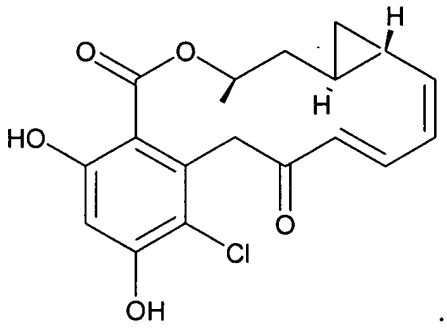
63. (Previously presented) The pharmaceutical composition of claim 30, wherein the compound has the structure:



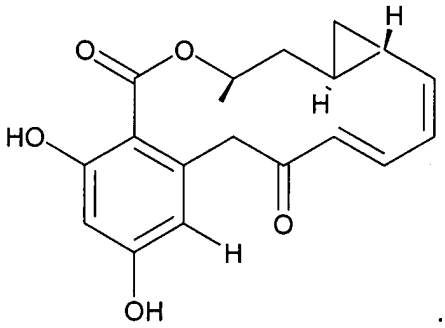
64. (Previously presented) The pharmaceutical composition of claim 30, wherein the compound has the structure:



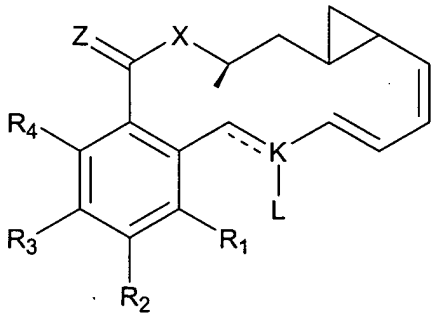
65. (Currently amended) The method of claim 33, or 38, ~~59, 61, or 62,~~ wherein the compound has the structure:



66. (Currently amended) The method of claim 33, or 38, ~~59, 61, or 62,~~ wherein the compound has the structure:



67. (Previously presented) A compound having the structure:



wherein the dotted line --- represents an optional bond, such that either a single or a double bond is present;

R_1 is hydrogen, halogen, an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or $N(R_A)_2$, wherein each occurrence of R_A is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety;

R_2 is hydrogen, halogen, cyano, $-OR_B$, $-N(R_B)_2$, $-SR_B$, $-O(C=O)R_B$, $-N(R_B)(C=O)(R_B)$, $-C(O)R_B$, $-C(O)OR_B$, $-CON(R_B)_2$, $-OCO_2R_B$, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, wherein each occurrence of R_B is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety;

R_3 is hydrogen, halogen, an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or $-N(R_C)_2$, wherein each occurrence of R_C is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety;

R_4 is hydrogen, halogen, cyano, $-OR_D$, $-N(R_D)_2$, $-SR_D$, $-O(C=O)R_D$, $-N(R_D)(C=O)(R_D)$, $-C(O)R_D$, $-C(O)OR_D$, $-CON(R_D)_2$, $-OCO_2R_D$, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, wherein each occurrence of R_D is independently hydrogen,

or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety;

Z is O;

X is O;

K and L together represent C=O, C=S, CH-CH_3, CH-$CH(R_L)_2$, C=$C(R_L)_2$, -CH_2-, -C(-$S(CH_2)_3$S-)-, CH-OR_L, CH-SR_L, CH-$N(R_L)_2$, CH-$N(R_L)(C=O)(R_L)$, C=N-O-R_L, CH-N=O, C=$C(R_L)$-$N(R_L)_2$, C=N-R_L, C=N-$N(R_L)_2$, or, if the dotted line --- represents a bond, whereby a double bond is present, then K and L together represent C-$N(R_L)_2$, wherein each occurrence of R_L is independently hydrogen, an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or two occurrences of R_L taken together represent a 3 to 7-membered cyclic aliphatic, heteroaliphatic, aromatic or heteroaromatic moiety;

whereby each of the foregoing aliphatic and heteroaliphatic moieties may independently be substituted or unsubstituted, cyclic or acyclic, or branched or unbranched, and each aryl, heteroaryl, alkylaryl, and alkylheteroaryl moiety may be substituted or unsubstituted;

wherein one or any two of R_1, R_A, R_2, R_B, R_3, R_C, R_4, R_D, R_J, or R_L are optionally a linker covalently bonded to a compound selected from the group consisting of radicicol, monocillin, geldanamycin, and steroids; and

pharmaceutically acceptable derivatives thereof.

68. (Previously presented) The compound of claim 67, wherein R_1 and R_3 are each independently halogen, hydrogen, or lower alkyl;

R_2 is hydrogen or $-OR_B$, wherein R_B is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety; and

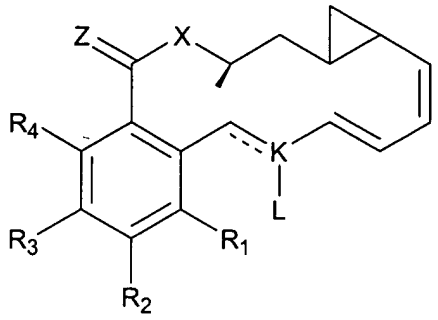
R_4 is hydrogen or $-OR_D$, wherein R_D is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety.

69. (Previously presented) The compound of claim 67, wherein K and L taken together are C=N-O-R_L.

70. (Previously presented) The compound of claim 68, wherein K and L taken

together are C=N-O-R_L.

71. (Previously presented) The pharmaceutical composition of claim 30, wherein the compound has the structure:



wherein the dotted line --- represents an optional bond, such that either a single or a double bond is present;

R_1 is hydrogen, halogen, an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or $N(R_A)_2$, wherein each occurrence of R_A is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety;

R_2 is hydrogen, halogen, cyano, $-OR_B$, $-N(R_B)_2$, $-SR_B$, $-O(C=O)R_B$, $-N(R_B)(C=O)(R_B)$, $-C(O)R_B$, $-C(O)OR_B$, $-CON(R_B)_2$, $-OCO_2R_B$, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, wherein each occurrence of R_B is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety;

R_3 is hydrogen, halogen, an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or $-N(R_C)_2$, wherein each occurrence of R_C is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety;

R_4 is hydrogen, halogen, cyano, $-OR_D$, $-N(R_D)_2$, $-SR_D$, $-O(C=O)R_D$, $-N(R_D)(C=O)(R_D)$, $-C(O)R_D$, $-C(O)OR_D$, $-CON(R_D)_2$, $-OCO_2R_D$, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, wherein each occurrence of R_D is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety;

Z is O;

X is O;

K and L together represent C=O, C=S, CH-CH_3, CH-$CH(R_L)_2$, $C=C(R_L)_2$, $-CH_2-$,

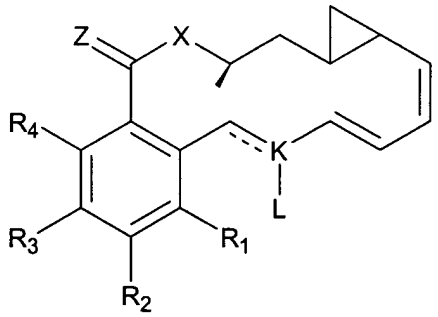
-C(-S(CH_2)$_3$S-)-, CH-OR_L, CH-SR_L, CH-N(R_L)$_2$, CH-N(R_L)(C=O)(R_L), C=N-O-R_L, CH-N=O, C=C(R_L)-N(R_L)$_2$, C=N-R_L, C=N-N(R_L)$_2$, or, if the dotted line --- represents a bond, whereby a double bond is present, then K and L together represent C-N(R_L)$_2$, wherein each occurrence of R_L is independently hydrogen, an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or two occurrences of R_L taken together represent a 3 to 7-membered cyclic aliphatic, heteroaliphatic, aromatic or heteroaromatic moiety;

whereby each of the foregoing aliphatic and heteroaliphatic moieties may independently be substituted or unsubstituted, cyclic or acyclic, or branched or unbranched, and each aryl, heteroaryl, alkylaryl, and alkylheteroaryl moiety may be substituted or unsubstituted;

wherein one or any two of R_1, R_A, R_2, R_B, R_3, R_C, R_4, R_D, R_J, or R_L are optionally a linker covalently bonded to a compound selected from the group consisting of radicicol, monocillin, geldanamycin, and steroids; and

pharmaceutically acceptable derivatives thereof.

72. (Currently amended) The method of claim 33, or 38, ~~59, 61, or 62,~~ wherein the compound has the structure:



wherein the dotted line --- represents an optional bond, such that either a single or a double bond is present;

R_1 is hydrogen, halogen, an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or N(R_A)$_2$, wherein each occurrence of R_A is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety;

R_2 is hydrogen, halogen, cyano, -OR_B, -N(R_B)$_2$, -SR_B, -O(C=O)R_B, -N(R_B)(C=O)(R_B), -C(O)R_B, -C(O)OR_B, -CON(R_B)$_2$, -OCO_2R_B, or an aliphatic, heteroaliphatic, aryl, heteroaryl,

alkylaryl, or alkylheteroaryl moiety, wherein each occurrence of R_B is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety;

R_3 is hydrogen, halogen, an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or $-N(R_C)_2$, wherein each occurrence of R_C is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety;

R_4 is hydrogen, halogen, cyano, $-OR_D$, $-N(R_D)_2$, $-SR_D$, $-O(C=O)R_D$, $-N(R_D)(C=O)(R_D)$, $-C(O)R_D$, $-C(O)OR_D$, $-CON(R_D)_2$, $-OCO_2R_D$, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, wherein each occurrence of R_D is independently hydrogen, or an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety;

Z is O;

X is O;

K and L together represent C=O, C=S, CH-CH_3, CH-$CH(R_L)_2$, $C=C(R_L)_2$, $-CH_2-$, $-C(-S(CH_2)_3S-)-$, CH-OR_L, CH-SR_L, CH-$N(R_L)_2$, CH-$N(R_L)(C=O)(R_L)$, C=N-O-R_L, CH-N=O, $C=C(R_L)-N(R_L)_2$, C=N-R_L, C=N-$N(R_L)_2$, or, if the dotted line --- represents a bond, whereby a double bond is present, then K and L together represent C-$N(R_L)_2$, wherein each occurrence of R_L is independently hydrogen, an aliphatic, heteroaliphatic, aryl, heteroaryl, alkylaryl, or alkylheteroaryl moiety, or two occurrences of R_L taken together represent a 3 to 7-membered cyclic aliphatic, heteroaliphatic, aromatic or heteroaromatic moiety;

whereby each of the foregoing aliphatic and heteroaliphatic moieties may independently be substituted or unsubstituted, cyclic or acyclic, or branched or unbranched, and each aryl, heteroaryl, alkylaryl, and alkylheteroaryl moiety may be substituted or unsubstituted;

wherein one or any two of R_1, R_A, R_2, R_B, R_3, R_C, R_4, R_D, R_J, or R_L are optionally a linker covalently bonded to a compound selected from the group consisting of radicicol, monocillin, geldanamycin, and steroids; and

pharmaceutically acceptable derivatives thereof.

73. (Previously presented) A pharmaceutical composition for treating a cancer sensitive to the compounds of claim 1 comprising a compound of claim 1 and a pharmaceutically acceptable carrier.

74. (Previously presented) A method for treating a cancer sensitive to the compounds of claim 1 comprising:

administering a therapeutically effective amount of a compound of claim 1 to a subject in need thereof.